HPNS RADIOLOGICAL BUILDING REMEDIATION GOAL EVALUATION
Update, July 8, 2021

Recent history

- August 20, 2020: EPA letter identifying concerns with the Navy's RESRAD BUILD risk estimates and stating EPA's inability to concur with the Navy's protectiveness determination
- Late 2020/early 2021: Navy email and letters criticizing BPRG calculator but providing limited responses to EPA concerns identified in our August 2020 letter
- March 29, 2021: DRC-level meeting with Laura where the Navy proposed a more sensitive radiological scan of one or more HPNS building"
- April 22, 2021: Navy submittal of the results of new RESRAD BUILD (RRB) simulations responding to concerns identified in EPA's August 2020 letter
- Late April to now: Multiple meetings with Navy representatives to discuss the April submittal, and EPA decision to independently evaluate the building remediation goals due to lingering concerns about RRB. We have largely completed our evaluation.

EPA evaluation

- To be protective, the sum of the cancer risks from the removable and fixed fractions must be in the risk range
- We evaluated cancer risks from the removable fraction (ingestion pathway) via "hand calculation."
    - We assessed risks without using the RRB or BPRG calculators and have documented the results in a spreadsheet.
    - Preliminary results show ingestion risks for all radionuclides of concern in the risk range (< 1 x 10-4).
    - If preliminary results do not change, the detection limits for measurements of the removable fraction included in the approved Parcel G work plan will be adequate.
- We evaluated cancer risks from fixed contamination ("external radiation") by using a modified version of the BPRG calculator
    - Preliminary results show risks from most radionuclides of concern in the risk range (< 1 x 10-4).
    - Preliminary results show the cancer risk for cobalt-60, if present, could exceed 1 x 10-4. Cobalt-60 is a radionuclide of concern at one of ~ 27 radiologically impacted HPNS buildings.

- If preliminary results do not change, the Navy's planned detection limits for measurement of fixed contamination should be adequate to measure cobalt-60 at levels corresponding to 1 x 10-4 risk

- After we finalize our risk estimates we will evaluate whether additive risks from both alpha and beta emitters remain in the risk range

Next steps

- EPA verifying BPRG calculations internally and with OSRTI/Oak Ridge National Lab (sent spreadsheet yesterday, 7/7)
- EPA plans to share our spreadsheets with Navy technical contacts (tentatively next week)
- The region will provide the spreadsheets and the conclusions from our evaluation to EPA headquarters
- If we are in agreement that the building RGs are protective, we expect the Navy will update its Five-Year Review addendum on the building radiological remediation goals and then EPA will send a letter to the Navy approving the Parcel G building radiological retesting

Other Retesting Issues

- Parcel G strontium-90 exceedances
  - The workplan requires excavation of Phase 2 trenches if "contamination is identified" in a Phase 1 trench. If no Phase 1 trenches are contaminated, Phase 2 trenches are to be sampled in place. This workplan provision was the result of lengthy EPA, Navy, and State negotiations.
  - The burden is on the Navy to demonstrate that any Phase 1 exceedances do not represent contamination (i.e., are not site-related)
  - My staff looks forward to a planned discussion on this topic next Tuesday